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# Terms of Reference

# Preparation of Mini-hydro Private Power Projects for Financial Closure

## Background

*<Rationale for the project, project history and list of relevant studies, need for consultant in the project and issues to be resolved, source of financing.>*

## Objective

The objective of this study is to prepare for financing under the [Donor] project about ten mini-hydro subprojects that would sell power to the grid. Both greenfield projects (e.g., newly identified sites or irrigation channel drop structures) as well as projects to rehabilitate existing mini-hydro sites will be considered.

## Scope of Work

The consultants will guide mini-hydro private power project preparation activities through all of the steps necessary, plus assist in the documentation required to ultimately bring at least two projects to financial closure for financing under the project. The consultants will conduct the following five tasks:

* Task 1 - Screening and Preparation of Short List
* Task 2 - Prefeasibility Studies
* Task 3 - Negotiations with Power Utility
* Task 4 - Finalization of Subproject Packages for Financing

### Task 1 - Project Screening

The consultants will select from the current inventories 20 potential mini-hydro subprojects that would then be reduced to a preliminary short list of about ten. The criteria for selection include:

* Range of capacity from 500 kW to 5000 kW
* “Run of river” operation without pondage
* High utilization of installed capacity
* Standardized electromechanical components to the degree possible
* Minimal environmental and adverse social impacts
* Reasonable assurance of completing the subproject during the [Donor] project life
* Interest and capacity of site owner/investors to undertake development

### Task 2 - Pre-investment Studies

The consultants will conduct an in-depth evaluation of the ten priority projects identified, including:

1. Technical feasibility, based upon the project hydrology and site conditions will be assessed. Existing feasibility studies, if any, will be updated.
2. Environmental and resettlement impacts, during both construction and operational phases.
3. Economic and financial evaluation, including a breakdown of the estimated costs by local and foreign source. The financial analysis will use current terms and pricing of power purchase by the national utility, as well as prevailing loan terms and interest rates in the local financial markets.
4. Necessary government clearances and approvals.
5. Implementation Schedule.

The results of this task are 10 Pre-Investment Study Reports.

### Task 3 - Negotiations with Power Utility

The consultants will assist the potential subproject developer present its proposal to the power utility with the goal of obtaining a "Letter of Intent (LOI)" from the utility to purchase the power to be produced by the mini-hydro plant. The Pre-investment Study Report will be main basis for the discussions.

### Task 4 - Finalization of Subproject Packages for Financing

Armed with the LOI from the power utility, the developer arrange for the conduct of the full feasibility study. After completion of the study, the consultants will assist the developer prepare the final sub project package for financing. They will help identify all documentation requirements, and assist in the application for financing under the [Donor] project. At least two subprojects should be assisted to financial closure.

## Deliverables

* Ten (10) completed Pre-investment Studies
* At least two (2) Project Packages, each comprising a detailed feasibility study, tender documents, financing plan, LOI, and application for financing by the [Donor] project.

## Consultant Skills and Level of Effort

It is estimated that about ten staff-months each of a civil engineer and electro/mechanical engineer with experience in mini-hydro development will be required. In addition about four staff-months of an economist/financial analyst and three staff-months of a project financing specialist will be required. About 1 staff-month of an environment and social safeguard specialist will be required. The estimated levels of effort may change depending on remoteness/accessibility of site and quality and availability of data.